Data Source: **EM CDB** Report Number: GEN-01b

Operations/Field Office: Nevada Print Date: 3/9/2000

0224 HQ ID: Site Summary Level: **Nevada Test Site** 

Project NV211 / Soils

### **General Project Information**

### **Project Description Narratives**

#### Purpose, Scope, and Technical Approach:

The Soils Project comprises activities to assess the degree of contamination in near-surface soils on the NTS, Tonopah Test Range, and the Nellis Air Force Range as the result of historic DOE testing activities; and completion of appropriate corrective actions to reduce risk to workers, the public, and the environment. Project activities are divided into five groups: Safety Shots, Cratering Experiments, Atmospheric Tests, Hydronuclear Experiments, and Nuclear Rocket Engine Experiments. Activities within each group have been further divided into Corrective Action Units (CAUs) based on size, geographic location, complexity of scope, and other factors. The highest risk CAUs are those that straddle the boundary of the NTS or are off the NTS because DOE does not have responsibility for control of access to these sites where nonDOE activities take place. The goal for these CAUs is complete all phases of the corrective action process to a corrective action level that allows for alternative uses of these sites.

For CAUs located on the NTS in future use areas, each CAU will be assessed and corrective actions will be performed to the negotiated corrective action level that allows for alternative uses of these sites.

For CAUs located in future testing zones, each CAU will be assessed. Corrective action will not be performed, but the site will be properly fenced, posted, and institutional control maintained. Surveillance and monitoring requirements, and land-use restrictions around the CAUs will be determined upon completion of assessment activities. In some instances, CAUs in future testing zones may be partially remediated if it is economical and a significant risk to human health and the environment can be reduced.

Negotiated corrective action levels will be based on pertinent factors such as risk, current and future land use, resource management, and technical and cost feasibility. Assessment activities will use the Kiwi system, FIDLER, in situ surface measurements, and depth profile sampling. Mechanical excavation equipment will be used to remove contaminated soil to the negotiated corrective action level. Excavated soil will be placed in burritto wraps and disposed in the Area 3 RWMS. Smaller scale excavation may be done to predetermined levels to remove hot spots in selected localized areas to reduce risk to workers, the public, and the environment. Precision excavation and soil volume reduction technologies for decreasing the amount of contaminated soil to be disposed will continue to be investigated.

#### Project Status in FY 2006:

Work remaining after 2006 is verification of final corrective actions. All scheduled verification work will be completed by 2007.

#### Post-2006 Project Scope:

Post FY 2006 activities have not yet been fully defined since the scope of the long-term surveillance and monitoring program must correspond proportionately with the assessed need for monitoring. In order to continuously implement an adequate and cost-effective surveillance and monitoring program, break-through technologies will be identified and utilized to increase the effectiveness and reduce the costs of the monitoring program. Identified as-needed activities related to long-term surveillance and monitoring currently include air sampling, reporting, and maintenance of institutional controls (including fencing and posting appropriate signage) throughout the duration of post-closure activities.

#### **Project End State**

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### **Project Description Narratives**

The end state of the Soils Project is assessment completed for all sites; corrective action completed to negotiated corrective action levels for all sites that straddle the boundary of the NTS or are off the NTS; off-site and/or in-place disposal of all associated soils and wastes; and appropriate land-use restrictions and access controls around contaminant boundaries where contaminated soils remain in place for sites on the NTS. A long term surveillance and monitoring program will be in place, and all sites on the NTS will remain under DOE institutional control.

#### **Cost Baseline Comments:**

The Soils Project baseline costs are based on bottom-up, activity based work packages comprised of templates. The templates, which accommodate the various tasks in each work package, were formulated from a considerable modeling effort. Cost data input to these models was derived from preliminary site assessments, historical facility and operations data, bottoms-up estimates, commercially available databases, engineering judgement, and bids from external vendors. Projected costs are escalated according to Paths to Closure guidance. Contingency for the Soils Project is based on Monte Carlo risk evaluations. Current regulatory requirements thus far do not allow for further grouping of activities to realize reduced costs due to economies of scale. Soils activities have yet to be fully characterized, thus are in a conceptual phase of development.

#### Safety & Health Hazards:

The hazards associated with the Soils Project are those industrial and construction hazards common to the environmental assessment and remediation industry with special emphasis upon those sites with a radiological contamination component. The use of heavy equipment is required for general construction and demolition. Project work includes drilling activities, excavations, radiological surveys, soil sampling, and the transport of contaminated soils and other materials from sites. Workers can be expected to encounter the normal occupational/physical hazards associated with field work involving use of electrical generators and field wiring, lifting, slip, trip and fall, and possibly confined spaces. In addition, the hazards of working in a desert environment include biological hazards and physical agents such as venomous reptiles and insects, rodents potentially infected with the Hantavirus, wild animals, heat stress and heat related injury, cold stress, and adverse weather conditions including high winds and flash floods. Radiological hazards are those associated with the on-site contaminants and may include tritium, depleted uranium, plutonium, and other radionuclides. Chemical hazards include those associated with both the on-site contaminants and the use of operational chemical such as gasoline, diesel, and sampling preservatives. Due to their locations, some sites may also contain hazards from unexploded ordnance. All activities are conducted to ensure compliance with guidance and direction provided by DOE and applicable OSHA requirements for hazardous waste operations. This includes the information and procedures provided in the overall Nevada Environmental Management Health and Safety Plan (HASP) and in the site-specific health and safety plans (SSHASPs) which are unique to each field project. The SSHASP is prepared, reviewed and approved by cognizant personnel prior to the commencement of hazardous waste operations and field activities. The SSHASPs contain an integrated safety management approach to the assessment of the field-work hazards and the appropriate control and mitigation procedures. Such information includes a health and safety (H&S) risk or hazard analysis for each site task and operation, identification of key project management and H&S personnel, site exposure monitoring requirements, personal protective equipment and procedures, medical surveillance requirements, and emergency response guidance. Specialized guidance on excavation, confined space, drill-rig safety, lead, asbestos and other toxic/carcinogenic materials are included when appropriate. The procedures and guidance outlined above are applicable throughout the life cycle of the project.

#### Safety & Health Work Performance:

The resources necessary to accomplish the work safely are provided through the PBS, the site Health and Safety (H&S) Program requirements, and through the resources allocated to the site's integrated safety management system in the following areas: radiological safety, emergency management,

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Project NV211 / Soils

### **Project Description Narratives**

fire safety, industrial hygiene and safety, occupational medicine, security, performance oversight, and standards management. To ensure readiness prior to the start of work, Operation Readiness Reviews, hazard assessment reviews, and radiological ALARA reviews are conducted as required. The measures used to monitor the adequacy of health and safety controls include several integrated approaches. Internal and external program management reviews and audits are conducted to assess overall effectiveness and compliance. Ongoing on-site surveillance is conducted by both project management and H&S professionals to confirm work-site controls and procedures are being followed. Occupational exposure monitoring is conducted at the work sites to verify the effectiveness of contamination controls. If unforeseen H&S hazards arise that are not already covered by contingency planning, work activities are suspended until the hazard is properly addressed by management and H&S specialists. Stop Work Orders are issued if there is an imminent hazard. Formalized change control procedures are used to manage and to document major project changes.

As corrective progresses from planning to implementation to closure, resource allocations will necessarily shift. H&S resources necessary for the planning phase of a project include industrial hygienists, health physicists, safety professionals, risk assessors, quality assurance and waste management specialists, H&S and waste handling training programs, and medical surveillance. During this phase, H&S professionals ensure that the project is planned in accordance with 29 CFR 1910, 29 CFR 1926, 40 CFR, 49 CFR, and 10 CFR requirements. Resources and personnel necessary during the implementation phase include industrial hygienists, health physicists, safety professionals, waste management specialists, quality assurance programs, on-site exposure monitoring (both technicians and instruments), internal and external dosimetry programs, respiratory and noise protection programs, medical surveillance and medical emergency care programs, personal protective equipment, and engineering controls. During the closure phase of a corrective action, resources and personnel will include industrial hygienists, health physicists, safety professionals, waste management specialists, internal and external dosimetry programs, medical surveillance programs, and a record retention and management program.

#### **PBS Comments:**

The Soils Project has developed increasingly efficient methods for characterizing surface contamination and the packaging and transportation of contaminated soils. The Field Instrument for the Detection of Low Energy Radiation (FIDLER) was used to get radiation readings from the soil (sodium iodide detectors used to monitor the levels of cleanup), and land-vehicle mounted Kiwi detectors have increased the accuracy of soil evaluations. The Super Sacks used for the Double Tracks remediation were replaced by "burrito wraps" in the Clean Slate 1 cleanup to achieve increasing cost-savings and project efficiency, while avoiding any increased risks to workers, citizens, or the environment. Currently no mutually agreed-upon cleanup levels exist for these sites, but it is supposed that a final cleanup level will be negotiated near the 25 millirem exposure dose level.

#### **Baseline Validation Narrative:**

The Nevada Environmental Restoration Project Baseline, which comprises the individual Project Summary Baselines for the DOE/NV environmental restoration program, has been formally reviewed by both the U.S. Army Corps of Engineers (USACE) and the DOE/HQ-sponsored Core Technical Group, and informally reviewed by the Inspector General's (IG) Office. Additionally, all cost estimates supporting the overall and individual project baselines are reviewed annually by Federal cost professionals and an independent contractor providing cost estimating support to the DOE/NV Environmental Management (EM) Program. In Fiscal Year 1997, the USACE was tasked by DOE/HQ to provide an independent assessment of site baselines in support of the remediation of contamination at DOE sites around the country. Phase I of this effort for DOE/NV was conducted in December 1996. The EM Task Force, comprised of both USACE and contractor technical experts, assessed DOE/NV Environmental Restoration Project work scopes, schedules, and cost estimates. The team concluded that scopes of work, schedules, and cost estimates for the DOE/NV EM Program were well-defined and usually supported by reliable and traceable data containing a combination of activity-based and level-of-effort costs. In

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Project NV211 / Soils

### **Project Description Narratives**

July 1997, DOE/NV requested an independent Critical Analysis Review of the site's revised Nevada Environmental Restoration Project baseline by the DOE/HQ Core Technical Group. The team reviewed elements of scope, schedule, costs, assumptions, and an integrated execution strategy as well as management approaches and strategies. The team concluded that the creation of an environmental restoration cost-estimating system improved project and work task scheduling efforts, and further integrated planning, cost accounting, project controls, and management systems. The team further concluded the baseline document provides credible scoping information for DOE/NV environmental restoration activities even though the majority of these activities have not yet been characterized and are in a conceptual phase of development. Other conclusions were that the "template" approach used in the near real-time electronic baseline can be easily modified to reflect more accurate project data as it becomes available. It can also be used to quickly reflect the consequences of future funding scenarios. The document reflects a high degree of stakeholder and regulator input in terms of project prioritization and presents a credible approach to project completion in accordance with 2006 Plan goals. However, the scope in the baseline is subject to numerous fiscal, regulatory, and land-use uncertainties which could impact the project completion date. Finally, the Core Technical Group concluded that these future uncertainties are well beyond the influence of the parties responsible for project execution. The Nevada Environmental Restoration Project has completed mitigation of findings and recommended corrective actions from the USACE and Core Technical Group viewed by both the U.S. Army Corps of Engineers (USACE) and the DOE/HQ-sponsored Core Technical Group, and informally reviewed by the Inspector General's (IG) Office. Additionally, all cost estimates supporting the overall and individual project baselines are reviewed annually by Federal cost professionals and an independent contractor providing cost estimating support to the DOE/NV Environmental Management (EM) Program. In Fiscal Year 1997, the USACE was tasked by DOE/HQ to provide an independent assessment of site baselines in support of the remediation of contamination at DOE sites around the country. Phase I of this effort for DOE/NV was conducted in December 1996. The EM Task Force, comprised of both USACE and contractor technical experts, assessed DOE/NV Environmental Restoration Project work scopes, schedules, and cost estimates. The team concluded that scopes of work, schedules, and cost estimates for the DOE/NV EM Program were well-defined and usually supported by reliable and traceable data containing a combination of activity-based and level-of-effort costs, In July 1997, DOE/NV requested an independent Critical Analysis Review of the site's revised Nevada Environmental Restoration Project baseline by the DOE/HQ Core Technical Group. The team reviewed elements of scope, schedule, costs, assumptions, and an integrated execution strategy as well as management approaches and strategies. The team concluded that the creation of an environmental restoration cost-estimating system improved project and work task scheduling efforts, and further integrated planning, cost accounting, project controls, and management systems. The team further concluded the baseline document provides credible scoping information for DOE/NV environmental restoration activities even though the majority of these activities have not yet been characterized and are in a conceptual phase of development. Other conclusions were that the "template" approach used in the near real-time electronic baseline can be easily modified to reflect more accurate project data as it becomes available. It can also be used to quickly reflect the consequences of future funding scenarios. The document reflects a high degree of stakeholder and regulator input in terms of project prioritization and presents a credible approach to project completion in accordance with 2006 Plan goals. However, the scope in the baseline is subject to numerous fiscal, regulatory, and land-use uncertainties which could impact the project completion date. Finally, the Core Technical Group concluded that these future uncertainties are well beyond the influence of the parties responsible for project execution. The Nevada Environmental Restoration Project has completed mitigation of findings and recommended corrective actions from the USACE and Core Technical Group reviews. The informal review of the baseline by the IG resulted in no findings.

#### **General PBS Information**

**Project Validated?** Yes **Date Validated:** 7/1/1997

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Project NV211 / Soils

FEDPLAN Project?

### **General PBS Information**

Has Headquarters reviewed and approved project?

No

Date Project was Added: 12/1/1997 **Baseline Submission Date:** 7/8/1999

**CERCLA RCRA DNFSB** AEA DOE Orders **Drivers:** UMTRCA State Other Y Y N Ν N Ν Y N

**Project Identification Information** 

Monica Sanchez **DOE Project Manager:** 

**DOE Project Manager Phone Number:** 702-295-0160 **DOE Project Manager Fax Number:** 702-295-1113

DOE Project Manager e-mail address: sanchezm@nv.doe.gov

Yes

Is this a High Visibility Project (Y/N):

#### **Planning Section**

### **Baseline Costs (in thousands of dollars)**

	1997-2006 Total	2007-2070 Total	1997-2070 Total	1997	Actual 1997	1998	Actual 1998	1999	2000	2001	2002	2003	2004	2005	2006
PBS Baseline (current year dollars)	170,952	903	171,855	7,239	7,240	1,806	1,806	6,056	5,696	5,676	12,154	36,046	32,995	36,958	26,326
PBS Baseline (constant 1999 dollars)	155,019	760	155,779	7,239	7,240	1,806	1,806	6,056	5,546	5,413	11,353	32,977	29,565	32,435	22,629
PBS EM Baseline (current year dollars)	170,952	903	171,855	7,239	7,240	1,806	1,806	6,056	5,696	5,676	12,154	36,046	32,995	36,958	26,326
PBS EM Baseline (constant 1999 dollars)	155,019	760	155,779	7,239	7,240	1,806	1,806	6,056	5,546	5,413	11,353	32,977	29,565	32,435	22,629

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	2007	2008	2009	2010				026- 030 20	31- 203 35 204			2051- 2055	2056- 2060	2061- 2065	2066- 2070
PBS Baseline (current year dollars)	903	0	0	0	0	0	0	0	0	0	0	0 0	0	0	0
PBS Baseline (constant 1999 dollars)	760	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PBS EM Baseline (current year dollars)	903	0	0	0	0	0	0	0	0	0	0	0 0	0	0	0
PBS EM Baseline (constant 1999 dollars)	760	0	0	0	0	0	0	0	0	0	0	0 0	0	0	0
<b>Baseline Escalation</b>	Rates														
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009		
	0.00%	0.00%	0.00%	2.70%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%		
	2010	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	2046-2050	2051-2055	2056-2060	2061-2065	2066-2070		
	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%		

### **Project Reconciliation**

**Project Completion Date Changes:** 

Previously Projected End Date of Project: 9/1/2006

Current Projected End Date of Project: 9/30/2007

Explanation of Project Completion Date Difference (if applicable):

**Project Cost Estimates (in thousands of dollars)** 

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**Project Reconciliation** 

Previously Estimated Lifecycle Cost (1997 - 2070, 1998 Dollars): 202,936 Actual 1997 Cost: 7,240 Actual 1998 Cost: 1,806

Previously Estimated Lifecycle Cost of Project (1999 - 2070, 1998 Dollars): 193,890 Inflation Adjustment (2.7% to convert 1998 to 1999 dollars): 5,235

Previously Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars): 199,125

**Project Cost Changes** 

Cost Adjustments Reconciliation Narratives

**Cost Change Due to Scope Deletions (-):** 

Cost Reductions Due to Efficiencies (-):

Cost decrease result of reduction in projected corrective action level; reduction in mob/demob costs

**Cost Associated with New Scope (+):** 

**Cost Growth Associated with Scope Previously Reported (+):** 

Cost Reductions Due to Science & Technology Efficiencies (-):

Subtotal: 199,125
Additional Amount to Reconcile (+): -52,391

Current Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars): 146,734

Milestones

Milestone/Activity Field Milestone **Original Baseline** EA DNFSB Intersite Legal Forecast Actual Mgmt. Key Code Date Date Date Date Date Commit. Decision Complete Clean Slates 2 CADD (CAU 413) S-001 3/11/1999 3/11/1999 Complete Clean Slates 3 CADD (CAU 414) S-003 6/25/1999 6/25/1999 Soils Project Mission Completion 11/30/2006 Project Start 6/30/1997 Project End 9/30/2007

Milestones - Part II

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Project NV211 / Soils

Milestone/Activity	Field Milestone Code	Critical Decision	Critial Closure Path	Project Start	Project End	Mission Complete	Tech Risk	Work Scope Risk	Intersite Risk	Cancelled	Milestone Description
Complete Clean Slates 2 CADD (CAU 413)	S-001								1		Complete assessment.
Complete Clean Slates 3 CADD (CAU 414)	S-003										Complete assessment.
Soils Project Mission Completion						Y					
Project Start				Y							
Project End					Y						

### **Performance Measure Metrics**

Category/Subcategory	Units	1997-2006 Total	2007-2070 Total	1997-2070 Total	Actual Pre-1997	Planned 1997	Actual 1997	Planned 1998	Planned 1999	Planned 2000	Planned 2001	Planned 2002	Planned 2003	Planne 200
RS														
Assess.	NR	72.00	0.00	72.00						1.00	1.00		2.00	34.0
RS														
Cleanup	NR	13.00	2.00	15.00						1.00	2.00		1.00	3.0
LLW														
On-Site Disp.	M3	81,194.00	30,072.00	111,266.00						13,532.00			34,082.00	33,580.0
Tech.														
Deployed	Ntd	1.00	0.00	1.00							1.00			
Category/Subcategory	Units	Planne 200				Planned 2008	Planned 2009	Planned 2010	Planne 2011 201	- 2016	- 202	21 - 2	nned P 026 - 2030	2031 - 2035
RS														
Assess. RS	NR	34.0	00 29.0	5.00	)									
Cleanup	NR	3.0	00 6.0	00	2.00									

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Categor	y/Subca	tegory	Units	Planned 2004	Planned 2005	Planned 2006	Planned 2007	Planned 2008	Planned 2009	Planne 201		nned 2011 - 2015	Planned 2016 - 2020	Planned 2021 - 2025	Plani 202 20		Planned 2031 - 2035
LLW																	
On-Sit	te Disp.		M3	33,580.00			30,072.00										
Tech.																	
Deplo	yed		Ntd														
Category	y/Subca	tegory	Units	Planned 2036 - 2040	Planned 2041 - 2045	Planned 2046 - 2050	Planned 2051 - 2055	Planned 2056 - 2060	Planned 2061 - 2035	Plannec 2066 2070	- ^	tions	Lifecycle Total				
RS																	
Assess			NR									13.00	85.00				
RS																	
Clean	up		NR									70.00	85.00				
LLW																	
On-Sit	te Disp.		M3									1	11,266.00				
Tech.																	
Deploy	yed		Ntd										1.00				
Release	Sites								<b>.</b>			_					
Site Code	RSF ID	Change Flag	Description			Class/Su	ıbclass Name	Planned Assess. Year	Forecast Assess. Year	Actual Assess. Date	Planned Comp. Year	Forecas Comp. Year		Acc. Year	No Action	Comp. Status	RAD
NVTS	0001		01-23-02 \ A	tmospheric Test	Site - High Alt.		d Surface nation/Above Tests	2004	2005			2006			N		Y
NVTS	0002		01-23-03 \ A	tmospheric Test	Site T-1		d Surface nation/Above Tests	2004	2004						N		Y
NVTS	0003		02-23-02 \ C	ontaminated A	reas (2)	Disperse Contami Ground	d Surface nation/Above Tests	2005	2005						N		Y

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Release	Sites				Dlamad	E	A -41	Dlamad	E	A -41	<b>A</b>			
Site Code	RSF ID	Change Flag	Description	Class/Subclass Name	Planned Assess. Year	Forecast Assess. Year	Actual Assess. Date	Planned Comp. Year	Forecast Comp. Year	Actual Comp. Date	Acc. Year	No Action	Comp. Status	RAD
NVTS	0004		02-23-03 \ Contaminated Berm	Dispersed Surface Contamination/Above Ground Tests	2005	2005						N		Y
NVTS	0005		02-23-04 \ Atmospheric Test Site - Whitney	Dispersed Surface Contamination/Above Ground Tests	2005	2005						N		Y
NVTS	0006		02-23-05 \ Atmospheric Test Site T-2A	Dispersed Surface Contamination/Above Ground Tests	2005	2005						N		Y
NVTS	0007		02-23-06 \ Atmospheric Test Site T-2B	Dispersed Surface Contamination/Above Ground Tests	2005	2005						N		Y
NVTS	0008		02-23-07 \ Atmospheric Test Site T-9B	Dispersed Surface Contamination/Above Ground Tests	2005	2005						N		Y
NVTS	0009		02-23-08 \ Atmospheric Test Site T-2	Dispersed Surface Contamination/Above Ground Tests	2005	2005						N		Y
NVTS	0010		02-23-09 \ Atmospheric Test Site - Turk	Dispersed Surface Contamination/Above Ground Tests	2005	2005						N		Y
NVTS	0011		03-23-09 \ T-3 Contamination Area	Dispersed Surface Contamination/Above Ground Tests	2004	2004						N		Y
NVTS	0012		03-23-10 \ T-3A Contamination Area	Dispersed Surface Contamination/Above Ground Tests								N		Y
NVTS	0013		03-23-11 \ T-3B Contamination Area	Dispersed Surface Contamination/Above Ground Tests								N		Y

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Release	Sites				Planned	Forecast	Actual	Planned	Forecast	Actual	Acc.			
Site Code	RSF ID	Change Flag	Description	Class/Subclass Name	Assess. Year	Assess. Year	Assess. Date	Comp. Year	Comp. Year	Comp. Date	Year	No Action	Comp. Status	RAD
NVTS	0014		03-23-12 \ T-3S Contamination Area	Dispersed Surface Contamination/Above Ground Tests								N		Y
NVTS	0015		03-23-13 \ T-3T Contamination Area	Dispersed Surface Contamination/Above Ground Tests								N		Y
NVTS	0016		03-23-14 \ T-3V Contamination Area	Dispersed Surface Contamination/Above Ground Tests								N		Y
NVTS	0017		03-23-15 \ S-3G Contamination Area	Dispersed Surface Contamination/Above Ground Tests								N		Y
NVTS	0018		03-23-16 \ S-3H Contamination Area	Dispersed Surface Contamination/Above Ground Tests								N		Y
NVTS	0019		03-23-17 \ S-3I Contamination Area	Dispersed Surface Contamination/Above Ground Tests								N		Y
NVTS	0020		03-23-19 \ T-3U Contamination Area	Dispersed Surface Contamination/Above Ground Tests								N		Y
NVTS	0021		04-23-01 \ Atmosph. Test Site T-4	Dispersed Surface Contamination/Above Ground Tests	2004	2004						N		Y
NVTS	0022		04-23-02 \ Atmospheric Test Site T4-a	Dispersed Surface Contamination/Above Ground Tests	2004	2004						N		Y
NVTS	0023		05-23-02 \ GMX Alpha Contaminated Area	Dispersed Surface Contamination/Above Ground Tests	2003	2003		2004	2006			N		Y

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Release	Sites				Planned	Forecast	Actual	Planned	Forecast	Actual	Acc.			
Site Code	RSF ID	Change Flag	Description	Class/Subclass Name	Assess. Year	Assess. Year	Actual Assess. Date	Comp. Year	Comp. Year	Comp. Date	Year	No Action	Comp. Status	RAD
NVTS	0024		05-23-04 $\setminus$ Atmospheric Tests (6) - BFa Site	Dispersed Surface Contamination/Above Ground Tests	2005	2005						N		Y
NVTS	0025		05-23-05 \ Atmospheric Test Site - Able	Dispersed Surface Contamination/Above Ground Tests	2005	2005						N		Y
NVTS	0026		05-23-06 \ Atmospheric Test Site	Dispersed Surface Contamination/Above Ground Tests	2005	2005						N		Y
NVTS	0027		05-45-01 \ Atmospheric Test Site - Hamilton	Dispersed Surface Contamination/Above Ground Tests	2005	2005						N		U
NVTS	0029		05-45-03 \ Atmospheric Test Site - Small Boy	Dispersed Surface Contamination/Above Ground Tests	2005	2005						N		U
NVTS	0030		07-23-03 \ Atmosph. Test Site T-7C	Dispersed Surface Contamination/Above Ground Tests	2004	2004						N		Y
NVTS	0031		07-23-04 \ Atmospheric Test Site - T7-1 Tower	Dispersed Surface Contamination/Above Ground Tests	2004	2004						N		Y
NVTS	0032		07-23-05 \ Atmosph. Test Site-T7-1a	Dispersed Surface Contamination/Above Ground Tests	2004	2004						N		Y
NVTS	0033		07-23-06 \ Atmospheric Test Site T7-5a	Dispersed Surface Contamination/Above Ground Tests	2004	2004						N		Y
NVTS	0034		07-23-07 \ Atmospheric Test Site - Dog	Dispersed Surface Contamination/Above Ground Tests	2004	2004						N		Y

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Operations/Field Office: Nevada Print Date: 3/9/2000

Site Summary Level: Nevada Test Site

HQ ID: 0224

Project NV211 / Soils

Release	Sites				Planned	Forecast	Actual	Planned	Forecast	Actual	Acc.			
Site Code	RSF ID	Change Flag	Description	Class/Subclass Name	Assess. Year	Assess. Year	Assess. Date	Comp. Year	Comp. Year	Comp. Date	Year	No Action	Comp. Status	RAD
NVTS	0035		07-23-08 \ Atmospheric Test Site - Baker	Dispersed Surface Contamination/Above Ground Tests	2004	2004						N		Y
NVTS	0036		07-23-09 \ Atmospheric Test Site-Charlie	Dispersed Surface Contamination/Above Ground Tests	2004	2004						N		Y
NVTS	0037		07-23-10 \ Atmospheric Test Site - Dixie	Dispersed Surface Contamination/Above Ground Tests	2004	2004						N		Y
NVTS	0038		07-23-11 \ Atmospheric Test Site-Dog	Dispersed Surface Contamination/Above Ground Tests	2004	2004						N		Y
NVTS	0039		07-23-12 \ Atmospheric Test Site-Charlie	Dispersed Surface Contamination/Above Ground Tests	2004	2004						N		Y
NVTS	0040		07-23-13 \ Atmospheric Test Site - Baker	Dispersed Surface Contamination/Above Ground Tests	2004	2004						N		Y
NVTS	0041		07-23-14 \ Atmospheric Test Site - Ruth	Dispersed Surface Contamination/Above Ground Tests	2004	2004						N		Y
NVTS	0042		07-23-15 \ Atmosph. Test Site T7-4	Dispersed Surface Contamination/Above Ground Tests	2004	2004						N		Y
NVTS	0043		07-23-16 \ Atmosph. Test Site B7-b	Dispersed Surface Contamination/Above Ground Tests	2004	2004						N		Y
NVTS	0044		07-23-17 \ Atmospheric Test Site - Climax	Dispersed Surface Contamination/Above Ground Tests	2004	2004						N		Y

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Operations/Field Office: Nevada Print Date: 3/9/2000

Site Summary Level: Nevada Test Site

HQ ID: 0224

Project NV211 / Soils

Release	Sites				Planned	Forecast	Actual	Planned	Forecast	Actual	Acc.			
Site Code	RSF ID	Change Flag	Description	Class/Subclass Name	Assess. Year	Assess. Year	Assess. Date	Comp. Year	Comp. Year	Comp. Date	Year	No Action	Comp. Status	RAD
NVTS	0045		08-23-03 \ Atmospheric Test Site T-8B	Dispersed Surface Contamination/Above Ground Tests	2005	2005						N		Y
NVTS	0046		08-23-04 \ Atmospheric Test Site T-2C	Dispersed Surface Contamination/Above Ground Tests	2005	2005						N		Y
NVTS	0047		08-23-06 \ Atmospheric Test Site T-8a	Dispersed Surface Contamination/Above Ground Tests	2005	2005						N		Y
NVTS	0048		08-23-07 \ Atmospheric Test Site T-8C	Dispersed Surface Contamination/Above Ground Tests	2005	2007			2007			N		Y
NVTS	0049		09-23-03 \ Atmospheric Test Site S-9F	Dispersed Surface Contamination/Above Ground Tests	2005	2005						N		Y
NVTS	0050		09-23-04 \ Atmospheric Test Site T9-C	Dispersed Surface Contamination/Above Ground Tests	2005	2005						N		Y
NVTS	0051		09-23-06 \ Mound of Contaminated Soil	Dispersed Surface Contamination/Above Ground Tests	2005	2005						N		Y
NVTS	0052		09-23-10 \ Atmospheric Test Site T-9	Dispersed Surface Contamination/Above Ground Tests	2005	2005						N		Y
NVTS	0053		09-23-11 \ Atmospheric Test Site S-9G	Dispersed Surface Contamination/Above Ground Tests	2005	2005						N		Y
NVTS	0054		09-23-12 \ Atmospheric Test Site S-9E	Dispersed Surface Contamination/Above Ground Tests	2005	2005						N		Y

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Site Summary Level: Nevada Test Site

HQ ID: 0224

Project NV211 / Soils

Release	Sites				Planned	Forecast	Actual	Planned	Forecast	Actual	Acc.			
Site Code	RSF ID	Change Flag	Description	Class/Subclass Name	Assess. Year	Assess. Year	Assess. Date	Comp. Year	Comp. Year	Comp. Date	Year	No Action	Comp. Status	RAD
NVTS	0055		09-23-13 \ Atmospheric Test Site T-9D	Dispersed Surface Contamination/Above Ground Tests	2005	2005						N		Y
NVTS	0056		09-23-14 $\setminus$ Atmospheric Test Site - Rushmore	Dispersed Surface Contamination/Above Ground Tests	2005	2005						N		Y
NVTS	0057		09-99-01 \ Atmosph.Test Site B-9A	Dispersed Surface Contamination/Above Ground Tests	2005	2005						N		U
NVTS	0058		10-23-04 \ Atmospheric Test Site - M-10	Dispersed Surface Contamination/Above Ground Tests	2005	2005						N		Y
NVTS	0059		10-45-01 \ U-10h Crater (Sedan)	Dispersed Surface Contamination/Above Ground Tests	2004	2004						N		U
NVTS	0060		10-45-02 \ Ess Crater Event Site	Dispersed Surface Contamination/Above Ground Tests	2004	2004						N		U
NVTS	0061		10-45-03 \ Uncle Crater Event Site	Dispersed Surface Contamination/Above Ground Tests	2004	2004						N		U
NVTS	0062		11-08-01 \ Contaminated Waste Dump 1	Dispersed Surface Contamination/Above Ground Tests	2004	2003		2005	2007			N		Y
NVTS	0063		11-08-02 \ Contaminated Waste Dump 2	Dispersed Surface Contamination/Above Ground Tests	2004	2003		2005	2007			N		Y
NVTS	0064		11-23-01 \ Radioactively Contaminated Area A	Dispersed Surface Contamination/Above Ground Tests	2004	2003		2005	2007			N		Y

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Operations/Field Office: Nevada Print Date: 3/9/2000

Site Summary Level: Nevada Test Site

HQ ID: 0224

Project NV211 / Soils

Release	Sites				Dlamad	E	A -41	Diamand	E	A =4===1	<b>A</b>			
Site Code	RSF ID	Change Flag	Description	Class/Subclass Name	Planned Assess. Year	Forecast Assess. Year	Actual Assess. Date	Planned Comp. Year	Forecast Comp. Year	Actual Comp. Date	Acc. Year	No Action	Comp. Status	RAD
NVTS	0065		11-23-02 $\setminus$ Radioactively Contaminated Area B	Dispersed Surface Contamination/Above Ground Tests	2004	2003		2005	2007			N		Y
NVTS	0066		11-23-03 \ Radioactively Contaminated Area C	Dispersed Surface Contamination/Above Ground Tests	2004	2003		2005	2007			N		Y
NVTS	0067		11-23-04 \ Radioactively Contaminated Area D	Dispersed Surface Contamination/Above Ground Tests	2004	2003		2005	2007			N		Y
NVTS	0068		18-23-01 \ Danny Boy Contamination Area	Dispersed Surface Contamination/Above Ground Tests	2004	2004						N		U
NVTS	0069		18-23-02 \ Sulky Contamination Area	Dispersed Surface Contamination/Above Ground Tests	2004	2004						N		U
NVTS	0070		18-45-01 \ U-18j-2 Crater (Johnnie Boy)	Dispersed Surface Contamination/Above Ground Tests	2005	2005						N		U
NVTS	0071		18-45-02 \ Little Feller I Surface Event	Dispersed Surface Contamination/Above Ground Tests	2004	2004						N		U
NVTS	0072		18-45-03 \ Little Feller II Surface Event	Dispersed Surface Contamination/Above Ground Tests	2004	2004						N		U
NVTS	0073		18-45-04 \ U-18a Crater (Danny Boy)	Dispersed Surface Contamination/Above Ground Tests	2004	2004						N		U
NVTS	0074		20-23-01 \ Contamination Area	Dispersed Surface Contamination/Above Ground Tests	2006	2006						N		Y

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Operations/Field Office: Nevada Print Date: 3/9/2000

Site Summary Level: Nevada Test Site

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Project NV211 / Soils

Release	Sites				Planned	Forecast	Actual	Planned	Forecast	Actual	Acc.			
Site Code	RSF ID	Change Flag	Description	Class/Subclass Name	Assess. Year	Assess. Year	Assess. Date	Comp. Year	Comp. Year	Comp. Date	Year	No Action	Comp. Status	RAD
NVTS	0075		20-45-01 \ U-20L Crater (Cabriolet)	Dispersed Surface Contamination/Above Ground Tests	2006	2006						N		U
NVTS	0076		20-45-02 \ U-20k Crater (Palanquin)	Dispersed Surface Contamination/Above Ground Tests	2000			2004	2004			N		U
NVTS	0077		20-45-03 \ U-20u Crater (Schooner)	Dispersed Surface Contamination/Above Ground Tests	2006	2006						N		U
NVTS	0078		30-45-01 \ U-30a, b, c, d, e Craters (Buggy)	Dispersed Surface Contamination/Above Ground Tests	2006	2006						N		U
NVTS	0079		NAFR-23-01 \ Pu Contaminated Soil	Dispersed Surface Contamination/Above Ground Tests				2001	2001			N		Y
NVTS	0080		NAFR-23-02 \ Pu Contaminated Soil	Dispersed Surface Contamination/Above Ground Tests	2003	2006		2004				N		Y
NVTS	3044		08-23-08	/								N		N
NVTS	3120		Nuclear Rocket Engine	/	2006			2007				N		N
NVTS	3121		00-23-01/ Hydronuclear Experiment	/	2005			2007				N		N
TOTR	0003		TA-23-01CS \ Pu Contaminated Soil	Dispersed Surface Contamination/Above Ground Tests				2001	2001			N		Y
TOTR	0004		TA-23-02CS \ Pu Contaminated Soil	Dispersed Surface Contamination/Above Ground Tests				2000	2002			N		Y
TOTR	0005		TA-23-03CS \ Pu Contaminated Soil	Dispersed Surface Contamination/Above	2001	2002		2003	2003			N		Y

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Operations/Field Office: Nevada Print Date: 3/9/2000

Site Summary Level: Nevada Test Site

HQ ID: 0224

Project NV211 / Soils

Release Sites

Planned Forecast Actual Planned Forecast Actual Acc.

Site RSF Change Description Class/Subclass Name Assess. Assess. Comp. Comp. Year No Comp. RAD

Code ID Flag Year Year Date Year Year Date Action Status

Ground Tests

**Technology Needs** 

Site Need Code: NV01-9902-03S

**Site Need Name:** Downhole Real Time Monitoring of Radiation (Mainly Tritium) in Boreholes

Focus Area Work Package ID: SS-11 Focus Area Work Package: Validation, Verification, & Long-Term Monitoring of Containment & Treatment

Focus Area: SCFA Agree with Technology Link: N

Benefits (Cost, Risk Reduction, Both): Cost

Technologies Cost Savings (in thousands of dollars) Range of Estimate

Site Need Code: NV04-9902-02

Site Need Name: Soil Volume Reduction

Focus Area Work Package ID: SS-10 Focus Area Work Package: Hot Spot Removal

Focus Area: SCFA Agree with Technology Link: Y

Benefits (Cost, Risk Reduction, Both): Both

Technologies Cost Savings (in thousands of dollars) Range of Estimate

Segmented Gate System

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Project NV211 / Soils

**Technology Needs** 

Related CCP Milestones Related Waste Streams Agree? Change?

01026: NVTS-14 - LLW Contaminated Soil (Soils Project)

Y

Site Need Code: NV02-9902-01S

Site Need Name: Deep Well Sampling

Focus Area Work Package ID: SS-11 Focus Area Work Package: Validation, Verification, & Long-Term Monitoring of Containment & Treatment

Focus Area: SCFA Agree with Technology Link: N

Benefits (Cost, Risk Reduction, Both): Cost

<u>Technologies</u> <u>Cost Savings (in thousands of dollars)</u> <u>Range of Estimate</u>

**Technology Deployments** 

Deployment Year

Deployment Status Planned Forecast Actual Date

**Technology Name:** Heavy Metals Contaminated Soil Project

Potential Deployment 2001

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